

Chapter 1: Introducing Hardware/How Computers Work

Objectives

In this chapter, we will learn:

- About the many different hardware components inside and connected to a computer
- How the CPU works and how it communicates with other devices

What is a PC

PC Hardware Design

Hardware Used for Input and Output

Ports:

Serial

Parallel

USB

Mouse

PS/2

Serial

Keyboard

PS/2

DIN or AT

Video



Hardware inside the Computer Case

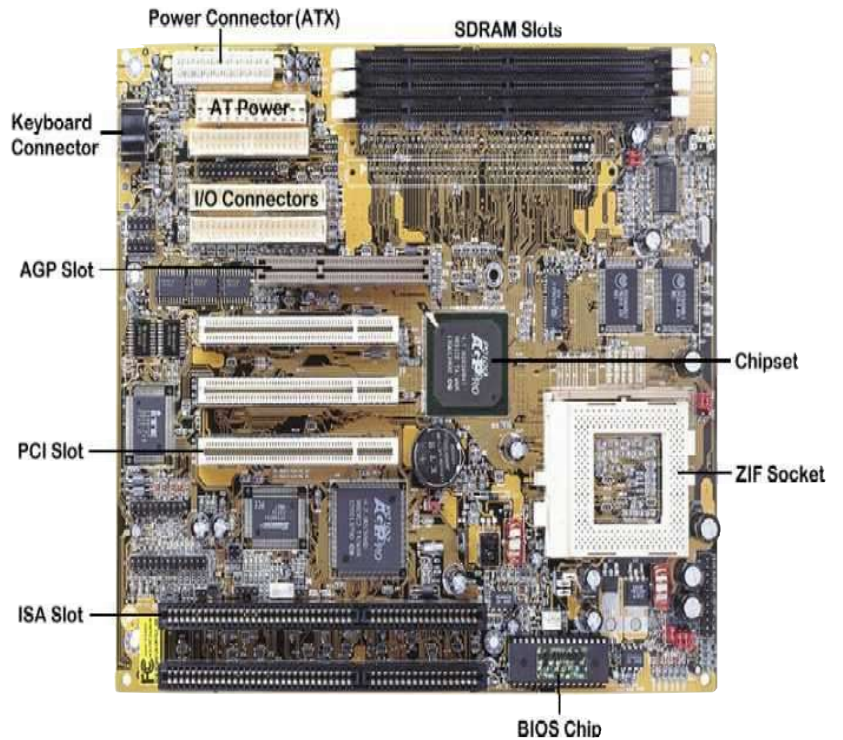
The Motherboard

The CPU and the Chip Set

BIOS

CMOS

BATTERY



Storage Devices

Primary Storage

RAM

Secondary Storage

Hard drive

Floppy drives

Others

Quick Quiz

1. True or False: A system board is the same thing as a motherboard.
2. Which parts of the motherboard control data flow and timing?
3. True or False: Primary storage is slower than secondary storage.
4. How many IDE devices can a modern motherboard support?

Motherboard Components Used for Communication among Devices

- PCI
- AGP
- ISA

The Electrical System

Instructions and Data Stored on the Motherboard

- CMOS
- FLASH ROM
- Jumpers and or DIP switches

Quick Quiz

1. True or False: ISA slots are the latest development in expansion card design.
2. True or False: ROM BIOS chips on modern motherboards can be reprogrammed.

Where are we Going

To further your knowledge

1. Search the Internet for one website on each of the following:
 - Motherboard manufacturers
 - Expansion card manufacturers
 - Power supply manufacturers
2. Research Moore's Law. Who is Gordon Moore? What does Moore's Law say

Chapter One Key Terms

Backward compatible
BIOS (basic input/output system)
Bus
Cache
Chip set
Circuit boards
CMOS (complementary metal-oxide semiconductor)
CPU (central processing unit)
DIMM (dual inline memory module)
Expansion card / Expansion slot

Firmware
Flash ROM
Hard
Hard drive controller
Jumper
Nonvolatile
Peripheral
Port
Power supply
Primary storage
RAM (random access memory)

RIMM
ROM (read-only memory)
Secondary storage
SIMM (single inline memory module)
System board
Trace
Video card